



Comments on

A. Garcia (University of Virginia) and J. M. Alzate
(Universidad de los Andes):

*“Regulatory Design and Incentives for Renewable
Energy”*

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Comments

- (Disclaimer)
- Interesting topic of research
 - Renewable X conventional energy
 - Policy-oriented
- Clear, objective, easy reading etc.
BUT
- Sometimes it lacks explanation
- Structure: model setup; 1st best; equilibrium; impact of two commonly used instruments

Speech X Model

- “the need for regulatory incentives seems to be a generally accepted fact”

X

- “incentives for increased investment in renewable technology may only be needed if there are significant economies of scale”
- Are there significant economies of scale?
- Why do we need the 1st part of the paper (no economies of scale)? Footnote...

No economies of scale

- Modeling:
- Potential of maximum instantaneous output W for renewable (random variable): higher risk?
- Conventional energy only gets residual demand?
- Demand structure: constant marginal surplus v ?

1st best (no econ. of scale):

- If renewable too costly (compared to traditional energy), optimal not to have renewables.
- If energy too costly (compared to consumers' utility v (constant marginal surplus), rationing is optimal.
- Compare the 2 technologies in a model with no externality on consumers/society?
- Wouldn't general equilibrium be more suitable?

Equilibrium:

- 2nd stage: price-taking firms
- Perfectly competitive \Rightarrow zero expected profit
- 1st stage: equilibrium investment levels
 - Optimal level of investment in fossil-fuel
 - Excessive (or not!!!) investment in renewable

Economies of Scale

- Fixed cost (sunk cost)
- Max profit
s.t. non negative profit
- Assumption on perfect competition => abandon of FOC of profit maximization and only look at break-even condition (where the fixed cost appear...)
- 1st stage: equilibrium investment levels
 - Underinvestment in fossil-fuel
 - Under or overinvestment in renewable
- Firms are actually willing to produce more!!!

RPS

- Speech: “Under RPS regime, utilities must invest so that their renewable capacity is always greater than a given fraction of their conventional capacity”

X

- Model: equal to a given fraction α
- Aren't there incentives for investment ratio larger than α ?